

**B.Sc. BIOTECHNOLOGY
SECOND SEMESTER (REPEAT)
MAMMALIAN PHYSIOLOGY
BBT-201**

**SET
A**

[USE OMR SHEET FOR OBJECTIVE PART]

Duration: 3 hrs.

Full Marks: 70

(Objective)

Time: 30 mins.

Marks: 20

Choose the correct answer from the following:

1 × 20 = 20

- Ascent of high mountains may cause altitude sickness in men. What is the main cause of this?
 - Excess of CO₂ in blood
 - Decreased efficiency of haemoglobin
 - Decreased partial pressure of oxygen
 - Decreased proportion of oxygen in the air
- Mark the one, which is NOT the precursor of the hormone.
 - Amino acids
 - Cholesterol
 - Phospholipids
 - Proteins
- Serum is:
 - Blood minus fibrinogen
 - Lymph minus corpuscle
 - Lymph
 - Blood minus corpuscle and fibrinogen
- Arterial blood is present in:
 - Pulmonary arteries
 - Pulmonary veins
 - All the arteries
 - All the veins
- Carbonic anhydrase is found in:
 - Leukocyte
 - Lymphocyte
 - Blood plasma
 - Erythrocyte
- Which of the following is the structural unit of nervous system?
 - Alveoli
 - Nephron
 - Neuron
 - Leukocyte
- Inferior venacava is formed by uniting the veins of:
 - Legs
 - Trunk
 - a and b
 - Neck
- Is the location where the majority of nutrients are absorbed:
 - Jejunum
 - Large intestines
 - Bronchi
 - Trachea
- Which term describes the space between a neuron and its target cell?
 - Post synaptic membrane
 - Synaptic cleft
 - Denridic spine
 - Axon terminal
- How many major types of blood have scientists discovered?
 - One: Type "O"
 - Two: white cells and red cells
 - Three: white cells, red cells, and plasma
 - Four: Types A, B, AB, and O

11. What causes oxygen to move through the alveolar blood capillaries of the lungs?
 - a. Difference in the O_2 tension and partial pressure of these chambers
 - b. Partial pressure of CO_2
 - c. Union of O_2 with haemoglobin
 - d. All of the above
12. Which of the following is NOT an endocrine gland?
 - a. Hypothalamus
 - b. Pituitary
 - c. Parathyroid
 - d. Pancreas
13. In humans, is the difference between systolic and diastolic pressure.
 - a. 40 mm Hg
 - b. 20 mm Hg
 - c. 0 mm Hg
 - d. None of the above
14. Which one is not a WBC?
 - a. Lymphocyte
 - b. Thrombocyte
 - c. Monocyte
 - d. Basophil
15. Respiration in man is helped by:
 - a. Intercostal muscle
 - b. Pelvic girdle
 - c. Biceps muscle
 - d. None of these
16. Name the hormone which takes part in the release of FSH and LH from the anterior pituitary.
 - a. Growth hormone
 - b. GnRH
 - c. Somatostatin
 - d. TRH
17. Excitation contraction coupling involves all the following except:
 - a. Release of Ca^{++} from troponin
 - b. Formation of cross bridges between actin and myosin
 - c. Spread of depolarization along the transverse tubules
 - d. Hydrolysis of ATP to ADP
18. The blood vessels that supply blood to the walls of the heart are called:
 - a. Coronary arteries
 - b. Coronary veins
 - c. Duodenum
 - d. Ileum
19. In the body, both the blood sodium and potassium levels are regulated by:
 - a. Pheromones
 - b. Aldosterone
 - c. Cortisol
 - d. Androgens
20. The endocrine gland which contributes to setting the body's biological clock is:
 - a. Pituitary gland
 - b. Thymus gland
 - c. Pineal gland
 - d. Thyroid gland

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(Descriptive)

Time : 2 hr. 30 mins.

Marks : 50

[Answer question no.1 & any four (4) from the rest]

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|---|--------|
| 1. Explain the anatomy of human heart. Write the process of circulation of blood in heart. | 4+6=10 |
| 2. What are neurotransmitters? Explain in brief with examples. Explain briefly the synaptic mode of transmission. | 5+5=10 |
| 3. Describe the function of blood in detail. | 10 |
| 4. Explain briefly the mechanism of muscle contraction in detail. | 10 |
| 5. Write short notes on:
a) Threshold stimulus
b) All and none rule | 5+5=10 |
| 6. Explain the mechanism of formation of urine in detail. | 10 |
| 7. Explain the chloride shift in detail. | 10 |
| 8. Write a brief note on the manifestation of hyper and hypo secretion of
a) Thyroid
b) Adrenal gland | 5+5=10 |

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